

#2

OIKE

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/826,463

DATE: 11/28/2001
TIME: 16:17:53

Input Set : A:\09826463.raw.txt
Output Set: N:\CRF3\11212001\I826463.raw

SEQUENCE LISTING

ENTERED

3 (1) GENERAL INFORMATION:
4 (i) APPLICANT: NOBUTO YAMAMOTO
6 (ii) TITLE OF INVENTION: PREPARATION OF POTENT
7 MACROPHAGE ACTIVATING FACTORS
8 DERIVED FROM CLONED VITAMIN D
9 BINDING PROTEIN AND ITS DOMAIN
W--> 10 AND THEIR THERAPEUTIC USAGE
W--> 11 FOR CANCER, HIV-INFECTION AND
W--> 12 OSTEOPETROSIS
14 (iii) NUMBER OF SEQUENCES: 3
16 (iv) CORRESPONDENCE ADDRESS:
17 (A) ADDRESSEE: CAESAR, RIVISE, BERNSTEIN,
18 COHEN & POKOTILOV, LTD.
19 (B) STREET: 1635 Market Street, 12th Floor
20 (C) CITY: Philadelphia
21 (D) STATE: PA
22 (E) COUNTRY: USA
23 (F) ZIP: 19103-2212
25 (v) COMPUTER READABLE FORM:
26 (A) MEDIUM TYPE: Diskette-3.5 inch, 1.44 Mb
27 (B) COMPUTER: IBM PC Compatible
28 (C) OPERATING SYSTEM: PC-DOS/MS-DOS
29 (D) SOFTWARE: WORDPERFECT VERSION 4.2
31 (vi) CURRENT APPLICATION DATA:
C--> 32 (A) APPLICATION NUMBER: US/09/826,463
C--> 33 (B) FILING DATE: 05-Apr-2001
34 (C) CLASSIFICATION:
36 (vii) PRIOR APPLICATION DATA:
37 (A) APPLICATION NUMBER: US/08/618,485
38 (B) FILING DATE: March 19, 1996
40 (A) APPLICATION NUMBER: US 08/478,121
41 (B) FILING DATE: 07-JUNE-1995
43 (viii) ATTORNEY/AGENT INFORMATION:
44 (A) NAME: Robert S. Silver
45 (B) REGISTRATION NUMBER: 35,681
46 (C) REFERENCE/DOCKET NUMBER: Y1004/20002
48 (ix) TELECOMMUNICATION INFORMATION:
49 (A) TELEPHONE: (215) 567-2010
50 (B) TELEFAX: (215) 751-1142
52 (2) INFORMATION FOR SEQ ID NO: 1:
54 (i) SEQUENCE CHARACTERISTICS:
55 (A) LENGTH: 458 amino acids
56 (B) TYPE: amino acid
57 (D) TOPOLOGY: linear
59 (ii) MOLECULE TYPE: protein
C--> 60 (iii) HYPOTHETICAL: no

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```

61      (vi) ORIGINAL SOURCE:
62          (A) ORGANISM: Human
C--> 63      (C) INDIVIDUAL ISOLATE: Vitamin D-binding protein
64          (Gc protein)
65      (x) PUBLICATION INFORMATION:
66          (A) AUTHORS: Cooke, Nancy E., David, E Vivek
67          (B) TITLE: Serum Vitamin D-binding Protein is a
68 Third Member of the Albumin and Alpha
69 Fetoprotein Gene Family
70          (C) JOURNAL: J. Clinical Investigation
71          (D) VOLUME: 76
72          (E) ISSUE: 12
73          (F) PAGES: 2420-2424
74          (G) DATE: December, 1985
75          (K) RELEVANT RESIDUES IN SEQ ID NO:1: FROM 1-485
77      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:
79 Leu Glu Arg Gly Arg Asp Tyr Glu Lys Asn Lys Val Cys Lys Glu Phe
80          5              10              15
82 Ser His Leu Gly Lys Glu Asp Phe Thr Ser Leu Ser Leu Val Leu Tyr
83          20              25              30
85 Ser Arg Lys Phe Pro Ser Gly Thr Phe Glu Gln Val Ser Gln Leu Val
86          35              40              45
88 Lys Glu Val Val Ser Leu Thr Glu Ala Cys Cys Ala Glu Gly Ala Asp
89          50              55              60
91 Pro Asp Cys Tyr Asp Thr Arg Thr Ser Ala Leu Ser Ala Lys Ser Cys
92 65              70              75              80
94 Glu Ser Asn Ser Pro Phe Pro Val His Pro Gly Thr Ala Glu Cys Cys
95          85              90              95
97 Thr Lys Glu Gly Leu Glu Arg Lys Leu Cys Met Ala Ala Leu Lys His
98          100             105             110
100 Gln Pro Gln Glu Phe Pro Thr Tyr Val Glu Pro Thr Asn Asp Glu Ile
101          115             120             125
103 Cys Glu Ala Phe Arg Lys Asp Pro Lys Glu Tyr Ala Asn Gln Phe Met
104          130             135             140
106 Trp Glu Tyr Ser Thr Asn Tyr Glu Gln Ala Pro Leu Ser Leu Leu Val
107 145             150             155             160
109 Ser Tyr Thr Lys Ser Tyr Leu Ser Met Val Gly Ser Cys Cys Thr Ser
110          165             170             175
112 Ala Ser Pro Thr Val Cys Phe Leu Lys Glu Arg Leu Gln Leu Lys His
113          180             185             190
115 Leu Ser Leu Leu Thr Thr Leu Ser Asn Arg Val Cys Ser Gln Tyr Ala
116          195             200             205
118 Ala Tyr Gly Glu Lys Lys Ser Arg Leu Ser Asn Leu Ile Lys Leu Ala
119          210             215             220
121 Gln Lys Val Pro Thr Ala Asp Leu Glu Asp Val Leu Pro Leu Ala Glu
122 225             230             235             240
124 Asp Ile Thr Asn Ile Leu Ser Lys Cys Cys Glu Ser Ala Ser Glu Asp
125          245             250             255
127 Cys Met Ala Lys Glu Leu Pro Glu His Thr Val Lys Leu Cys Asp Asn

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128          260          265          270
130 Leu Ser Thr Lys Asn Ser Lys Phe Glu Asp Cys Cys Gln Glu Lys Thr
131          275          280          285
133 Ala Met Asp Val Phe Val Cys Thr Tyr Phe Met Pro Ala Ala Gln Leu
134          290          295          300
136 Pro Glu Leu Pro Asp Val Arg Leu Pro Thr Asn Lys Asp Val Cys Asp
137 305          310          315          320
139 Pro Gly Asn Thr Lys Val Met Asp Lys Tyr Thr Phe Glu Leu Ser Arg
140          325          330          335
142 Arg Thr His Leu Pro Glu Val Phe Leu Ser Lys Val Leu Glu Pro Thr
143          340          345          350
145 Leu Lys Ser Leu Gly Glu Cys Cys Asp Val Glu Asp Ser Thr Thr Cys
146          355          360          365
148 Phe Asn Ala Lys Gly Pro Leu Leu Lys Lys Glu Leu Ser Ser Phe Ile
149          370          375          380
151 Asp Lys Gly Gln Glu Leu Cys Ala Asp Tyr Ser Glu Asn Thr Phe Thr
152 385          390          395          400
154 Glu Tyr Lys Lys Lys Leu Ala Glu Arg Leu Lys Ala Lys Leu Pro Glu
155          405          410          415
157 Ala Thr Pro Thr Glu Leu Ala Lys Leu Val Asn Lys Arg Ser Asp Phe
158          420          425          430
160 Ala Ser Asn Cys Cys Ser Ile Asn Ser Pro Pro Leu Tyr Cys Asp Ser
161          435          440          445
163 Glu Ile Asp Ala Glu Leu Lys Asn Ile Leu
164          450          455          458
166 (2) INFORMATION FOR SEQ ID NO: 2:
167   (i) SEQUENCE CHARACTERISTICS:
168       (A) LENGTH: 89 amino acids
169       (B) TYPE: amino acid
170       (D) TOPOLOGY: linear
171   (ii) MOLECULE TYPE: protein
C--> 172   (iii) HYPOTHETICAL: no
173   (vi) ORIGINAL SOURCE:
174       (A) ORGANISM: Human
C--> 175   (C) INDIVIDUAL ISOLATE: Vitamin D-binding protein (Gc protein)
177   (x) PUBLICATION INFORMATION:
178       (A) AUTHORS: Cooke, Nancy E., David, E Vivek
179       (B) TITLE: Serum Vitamin D-binding Protein is a Third Member
180 of the Albumin and Alpha Fetoprotein Gene Family
181       (C) JOURNAL: J. Clinical Investigation
182       (D) VOLUME: 76
183       (E) ISSUE: 12
184       (F) PAGES: 2420-2424
185       (G) DATE: December, 1985
186       (K) RELEVANT RESIDUES IN SEQ ID NO:2: FROM 1 TO 4 and 5 TO 89
187   (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:
189 Leu Glu Arg Gly Pro Leu Leu Lys Lys Glu Leu Ser Ser Phe Ile Asp
190          5          10          15
192 Lys Gly Gln Glu Leu Cys Ala Asp Tyr Ser Glu Asn Thr Phe Thr Glu

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```

193          20          25          30
195 Tyr Lys Lys Lys Leu Ala Glu Arg Leu Lys Ala Lys Leu Pro Glu Ala
196          35          40          45
198 Thr Pro Thr Glu Leu Ala Lys Leu Val Asn Lys Arg Ser Asp Phe Ala
199          50          55          60
201 Ser Asn Cys Cys Ser Ile Asn Ser Pro Pro Leu Tyr Cys Asp Ser Glu
202 65          70          75          80
204 Ile Asp Ala Glu Leu Lys Asn Ile Leu
205          85          89
208 (2) INFORMATION FOR SEQ ID NO: 3:
209 (i) SEQUENCE CHARACTERISTICS:
210 (A) LENGTH: 94 amino acids
211 (B) TYPE: amino acid
212 (D) TOPOLOGY: linear
213 (ii) MOLECULE TYPE: protein
C--> 214 (iii) HYPOTHETICAL: no
215 (vi) ORIGINAL SOURCE:
216 (A) ORGANISM: Human
C--> 217 (C) INDIVIDUAL ISOLATE: Vitamin D-binding protein (Gc protein)
219 (x) PUBLICATION INFORMATION:
220 (A) AUTHORS: Cooke, Nancy E., David, E Vivek
221 (B) TITLE: Serum Vitamin D-binding Protein is a Third Member
222 of the Albumin and Alpha Fetoprotein Gene Family
223 (C) JOURNAL: J. Clinical Investigation
224 (D) VOLUME: 76
225 (E) ISSUE: 12
226 (F) PAGES: 2420-2424
227 (G) DATE: December, 1985
228 (K) RELEVANT RESIDUES IN SEQ ID NO:3: FROM 10 TO 94
230 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:
232 Ile Ile Pro Val Glu Glu Glu Asn Pro Pro Leu Leu Lys Lys Glu Leu
233          5          10          15
235 Ser Ser Phe Ile Asp Lys Gly Gln Glu Leu Cys Ala Asp Tyr Ser Glu
236          20          25          30
238 Asn Thr Phe Thr Glu Tyr Lys Lys Lys Leu Ala Glu Arg Leu Lys Ala
239          35          40          45
241 Lys Leu Pro Glu Ala Thr Pro Thr Glu Leu Ala Lys Leu Val Asn Lys
242          50          55          60
244 Arg Ser Asp Phe Ala Ser Asn Cys Cys Ser Ile Asn Ser Pro Pro Leu
245 65          70          75          80
247 Tyr Cys Asp Ser Glu Ile Asp Ala Glu Leu Lys Asn Ile Leu
248          85          90          94

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VERIFICATION SUMMARY

PATENT APPLICATION: US/09/826,463

DATE: 11/28/2001

TIME: 16:17:54

Input Set : A:\09826463.raw.txt

Output Set: N:\CRF3\11212001\I826463.raw

L:32 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
L:33 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]
L:10 M:259 W: Allowed number of lines exceeded, (ii) TITLE OF INVENTION:
L:11 M:259 W: Allowed number of lines exceeded, (ii) TITLE OF INVENTION:
L:12 M:259 W: Allowed number of lines exceeded, (ii) TITLE OF INVENTION:
L:60 M:220 C: Keyword misspelled or invalid format, [(iii) HYPOTHETICAL:]
L:63 M:220 C: Keyword misspelled or invalid format, [(C) INDIVIDUAL ISOLATE:]
L:172 M:220 C: Keyword misspelled or invalid format, [(iii) HYPOTHETICAL:]
L:175 M:220 C: Keyword misspelled or invalid format, [(C) INDIVIDUAL ISOLATE:]
L:214 M:220 C: Keyword misspelled or invalid format, [(iii) HYPOTHETICAL:]
L:217 M:220 C: Keyword misspelled or invalid format, [(C) INDIVIDUAL ISOLATE:]